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| 09/607,801      | 06/30/2000  | Mandayam T. Raghunath | 13572 (YOR9-2000-0238) | 1157             |

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EXAMINER

YANG, RYAN R

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2672

DATE MAILED: 10/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/607,801

Applicant(s)

RAGHUNATH, MANDAYAM T.

Examiner

Ryan R Yang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-20 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. Claims 1-20 are pending in this application. Claims 1, 10, 16 and 19 are independent claims.
2. The present title of the invention is "Method and apparatus for dynamically controlling scroller speed employed for a user interface of a wearable appliance".

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 7, 9-14 and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Will (US 5,477,508).

As per claim 1, Will discloses a method for dynamically controlling speed of a scroll device providing scroll functions for setting time of a time keeping display having minute and hour indicators, said scroll device generating scroll signals and communicating said signals to a control device for advancing said minute and hour indicators in response thereto, said method comprising:

a) receiving first scroll signals from said scroll device and, in response to received first scroll signals, incrementally advancing a time keeping display minute

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indicator in a first direction according to fine-grain time increments, and simultaneously tracking the advancing direction (Figure 8 the left part of curve 52);

b) determining a predetermined number of said fine-grain time increments in said first direction (Figure 8 where the horizontal axis shows the Rate of Thumbwheel Movement is monitored); and,

c) thereafter, in response to continued receipt of first scroll signals, seamlessly advancing said time keeping display minute indicator according to coarse-grain time increments in said first direction, said coarse-grain time increments greater than said fine-grain time increments, whereby fewer scroll device manipulations are required to achieve a desired time set without notice to the user (Figure 8 the right part of curve 52).

5. As per claim 2, Will demonstrated all the elements as applied to the rejected independent claim 1, supra, and further discloses:

d) receiving second scroll signals in response to manipulating said scroll device to change direction of said time keeping display minute indicator ("Movement of the thumbwheel up or down results in change of the displayed value", column 9, line 48-50);

e) determining said change in direction ("Movement of the thumbwheel up or down results in change of the displayed value", column 9, line 48-50, the changes are inherently determined because the direction of the movement is changed); and,

f) incrementally advancing said time keeping display minute indicator in said changed direction according to fine-grain time increments ("01, 02, 03 if the direction is down, 59, 58, 57 if the direction is up", column 9, line 50-51).

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6. As per claim 3, Will demonstrated all the elements as applied to the rejected independent claim 1, supra, and further discloses generated scroll signals corresponding to said scroll events, wherein said fine-grain time increments of said display minute indicator corresponds to (1) minute increment per scroll event (01, 02, 03 if the direction is down, 59, 58, 57 if the direction is up, column 9, line 50-51).

7. As per claim 7, Will demonstrated all the elements as applied to the rejected independent claim 1, supra, and further discloses the step of implementing said scroll device for incrementing advancing a time keeping display hour indicator in a first direction according to received first scroll signals, and simultaneously tracking said advancing direction (Figure 11b where there are settings for hour and minute).

8. As per claim 9, Will demonstrated all the elements as applied to the rejected dependent claim 7, supra, and further discloses said scroll device further generates click events in response to manipulation thereof, and generates third scroll signals corresponding to said click events for communication to said control device, said method further comprising the step of:

independently enabling scroll device control of either said time keeping display minute indicator or said time keeping display hour indicator upon receipt of a third scroll signal ("The rule here is that movement of the thumbwheel down from item 157 moves the designator to item 158", column 11, line 7-9).

9. As per claim 10, Will discloses a system for dynamically controlling scrolling functions for a display indicator capable of navigating through a high-resolution display

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provided in a wearable appliance that displays textual or graphical content, said system comprising:

a scroll device for manipulation by a user to provide said scrolling functions for advancing said indicator, said scroll device generating scroll events (Figure 1); and,

a control device for receiving said scroll events, tracking an advancing direction of said indicator, and providing dynamic speed control of said indicator by advancing said indicator according to fine-grain and coarse-grain increments in response to said scroll events and said tracked direction, wherein said dynamic speed control is seamless to the user (Figure 8).

10. As per claim 11, Will demonstrated all the elements as applied to the rejected independent claim 10, supra, and further discloses said control device comprises a mechanism for determining a predetermined number of said fine-grain increments (Figure 8), whereby upon continued manipulation of said scroll device, after determination of a predetermined number of said fine-grain increments, said control device enabling coarse-grain advancement of said display indicator per scroll event in said first direction to thereby advance to a desired display position with fewer scroll device manipulations (Figure 8 right side of curve 52).

11. As per claim 12, Will demonstrated all the elements as applied to the rejected dependent claim 11, supra, and further discloses said appliance provides time keeping functions, said indicator including a time keeping display minute and hour indicators for a time keeping function (Figure 11a), whereby, said control device enables incremental fine-grain advancement of said time keeping display minute indicator per scroll event in

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a first direction, and, upon continued manipulation of said scroll device, after determination of a predetermined number of said fine-grain increments, enables coarse-grain advancement of said time keeping display minute indicator per scroll event in said first direction to thereby achieve a desired time set with fewer scroll device manipulations (Figure 8).

12. As per claim 13, Will demonstrated all the elements as applied to the rejected dependent claim 11, supra, and further discloses determination of user manipulation of said scroll device to effect a change in advancing direction of said indicator, said control device enables incremental fine-grain advancement of said indicator per scroll event in said changed direction ("Movement of the thumbwheel up or down results in change of the displayed value (of 96 here) in an appropriate natural direction (01, 02, 03 if the direction is down, 59, 58, 57 if the direction is up)", column 9, line 48-51).

13. As per claim 14, Will demonstrated all the elements as applied to the rejected dependent claim 11, supra, and further discloses said scroll device is a roller wheel (Figure 13).

14. As per claim 16, Will discloses a program storage device readable by a machine (Figure 3a 22), tangibly embodying a program of instructions executable by the machine to perform method steps for dynamically controlling scrolling functions for a display indicator capable of navigating through a display provided in a wearable appliance that displays textual or graphical content, said appliance implementing a scroll device for generating scroll events in response to user manipulation thereof, said method steps including the steps of:

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a) receiving scroll events for incrementally advancing said indicator per scroll event in a first direction to provide fine-grain scroll indicator movement, and simultaneously tracking the advancing direction (Figure 8 the left portion of curve 52);

b) determining a predetermined number of said fine-grain indicator increments in said first direction (Figure 8 where the horizontal axis shows the Rate of Thumbwheel Movement is monitored); and,

c) thereafter, in response to continued receipt of scroll events, providing in a manner that is seamless to a user, coarse grain scroll indicator movement by advancing said indicator for a pre-determined number of increments per scroll event in said first direction, said coarse-grain scroll indicator movement greater than said fine-grain scroll indicator movement, whereby fewer scroll device manipulations are required to achieve a desired scroll indicator position on said display (Figure 8 the right portion of curve 52).

15. As per claim 17, demonstrated all the elements as applied to the rejected independent claim 16, supra, and further discloses:

d) receiving second scroll events in response to manipulating said scroll device to change direction of said indicator movement ("Movement of the thumbwheel up or down results in change of the displayed value", column 9, line 48-50);

e) determining said change in direction ("Movement of the thumbwheel up or down results in change of the displayed value", column 9, line 48-50, the changes are inherently determined because the direction of the movement is changed); and,



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f) incrementally advancing said indicator per received scroll event in said changed direction to provide fine-grain scroll indicator movement ("01, 02, 03 if the direction is down, 59, 58, 57 if the direction is up", column 9, line 50-51).

16. As per claim 18, Will demonstrated all the elements as applied to the rejected dependent claim 17, supra, and further discloses wherein said appliance provides time keeping functions, said indicator including a time keeping display minute and hour indicators for a time keeping function (Figure 2).

17. As per claim 19, Will discloses a method for dynamically controlling scrolling functions for a display indicator capable of navigating through a display provided in a wearable appliance that displays textual or graphical content, said appliance implementing a scroll device for generating scroll events in response to user manipulation thereof, said method comprising the steps of:

a) receiving scroll events for incrementally advancing said indicator per scroll event in a first direction to provide fine grain scroll indicator movement, and simultaneously tracking the advancing direction (Figure 8 the left portion of curve 52);

b) determining a predetermined number of said fine-grain indicator increments in said first direction (Figure 8 where the horizontal axis shows the Rate of Thumbwheel Movement is monitored); and,

c) thereafter, in response to continued receipt of scroll events, providing in a manner that is seamless to a user, coarse grain scroll indicator movement by advancing said indicator for a pre-determined number of increments per scroll event in said

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first direction, said coarse-grain scroll indicator movement greater than said fine-grain scroll indicator movement, whereby fewer scroll device manipulations are required to achieve a desired scroll indicator position on said display (Figure 8 the right portion of curve 52).

18. As per claim 20, Will demonstrated all the elements as applied to the rejected independent claim 1, supra, and further discloses:

d) receiving second scroll events in response to manipulating said scroll device to change direction of said indicator movement ("Movement of the thumbwheel up or down results in change of the displayed value", column 9, line 48-50);

e) determining said change in direction ("Movement of the thumbwheel up or down results in change of the displayed value", column 9, line 48-50, the changes are inherently determined because the direction of the movement is changed); and,

f) incrementally advancing said indicator per received scroll event in said changed direction to provide fine-grain scroll indicator movement ("01, 02, 03 if the direction is down, 59, 58, 57 if the direction is up", column 9, line 50-51).

### ***Claim Rejections - 35 USC § 103***

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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20. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Will (US 5,477,508).

As per claim 8, Will demonstrated all the elements as applied to the rejected dependent claim 7, *supra*.

Will teaches dynamically controlling speed of a scroll device, it is noted that Will does not teaches the steps of "receiving second scroll signals in response to manipulating said scroll device to change direction of said time keeping display hour indicator; determining said change in direction; and, incrementally advancing said time keeping display hour indicator in said changed direction according to fine-grain time increments, and simultaneously tracking said advancing direction", however, since Will has already teaches the scrolling in minute increment, it would have been obvious to one skilled in the art at the time the invention was made to extend the same mechanism to the hour increment in order to make the controlling more versatile.

21. As per claim 15, Will demonstrated all the elements as applied to the rejected dependent claim 11, *supra*.

Will discloses a system for dynamically controlling a scrolling device, it is noted that Will does not explicitly disclose using the mouse wheel as a scrolling device, however, since the mouse wheel is notoriously well in the art for scrolling, it would have been obvious for one skilled in the art at the time the invention was made to include it in order to increase the maneuvering options.

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***Allowable Subject Matter***

22. Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

***Inquiries***

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ryan Yang** whose telephone number is **(703) 308-6133**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Michael Razavi**, can be reached at **(703) 305-4713**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

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**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ryan Yang  
September 29, 2002

A handwritten signature in black ink, appearing to be 'M. Razavi', with a long horizontal line extending to the right.

**MICHAEL RAZAVI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600**